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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/778,627	02/07/2001	Arihiro Takeda	1324.6521	9611

24978 7590 06/02/2004

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EXAMINER

CHUNG, DAVID Y

ART UNIT PAPER NUMBER

2871

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/778,627	TAKEDA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	David Y. Chung	2871	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 May 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7, 9 and 10 is/are rejected.
- 7) ☒ Claim(s) 4-6, 8, 11 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1, 2 and 9 rejected under 35 U.S.C. 102(e) as being anticipated by Song et al. (U.S. 6,342,938).**

As to claims 1 and 9, Song et al. discloses a vertically aligned liquid crystal display having four domains per pixel region. Note in figures 1A and 1B, the opposing substrates 10 and 20, electrodes 11 and 21, alignment films 12 and 22, and polarizers 13 and 23. The liquid crystal layer 100 has a negative dielectric anisotropy. See column 3, lines 25-45. Note in figures 3 and 4, the singular point control portions consisting of apertures 211, 212, 216 and 217. A singular point is formed at the intersection of apertures 216 and 217.

As to claim 2, figures 1A and 1B show polarizers 13 and 23 disposed on the outer surface of substrates 10 and 20. As shown in figure 3, the direction of longitudinal

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axes of the molecules in each of the liquid crystal domains is substantially at a 45 degree angle to the axes of the polarizers (P1 and P2).

**Claims 1-3, 7, 9 and 10 rejected under 35 U.S.C. 102(e) as being anticipated by Koma (U.S. 6,369,870).**

As to claims 1 and 9, Koma et al. discloses a multi-domain liquid crystal display having an orientation control window formed in the common electrode in the middle of each pixel region. The liquid crystal has a negative dielectric anisotropy. See column 5, lines 27-34. A vertical alignment layer is formed on the inside surface of the liquid crystal panel. See column 6, lines 40-46. In figure 4, the orientation control window acts as a singular point control portion. In figure 15, a first singular point is formed under the orientation control window and a second singular point is formed between the pixel electrodes.

As to claim 2, Koma et al. teaches that the polarizing axis of the polarizing plate makes a 45 degree angle with the plane component of the optical axis of the liquid crystal molecules under control. See column 6, lines 1-10.

As to claim 3, the orientation control window would inherently cause the liquid crystal molecules in two adjacent domains to align themselves at substantially a 45 degree angle to the imaginary line connecting two singular points. In figure 15, the

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liquid crystal molecules are directed towards the first singular point and away from the second singular point.

As to claim 7, the orientation control window formed in the common electrode constitutes a non-electrode region where no electrode material is formed. The liquid crystal molecules in the non-electrode region would be inclined substantially around the first singular point when a voltage is applied.

As to claim 10, the second singular point is formed between the pixel electrodes and over the bus line 28 as in figure 15.

#### ***Allowable Subject Matter***

Claims 4-6, 8, 11 and 12 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Chung whose telephone number is (571) 272-2288. The examiner can normally be reached on Monday-Friday from 8:30 am to 5:00 pm.

David Chung  
GAU 2871  
05/31/04

  
KENNETH PARKER  
PRIMARY EXAMINER